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Reasons for Decision

**Novagas Clearinghouse Ltd.,
as agent for Novagas
Clearinghouse Pipelines Ltd.
(formerly known as 3025811
Canada Ltd.)**

GHW-1-94

December 1994

Facilities

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National Energy Board

Reasons for Decision

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Reasons for Decision

In the Matter of

**Novagas Clearinghouse Ltd., as
agent for Novagas Clearinghouse
Pipelines Ltd. (formerly known as
3025811 Canada Ltd.)**

Application dated 23 September 1994

GHW-1-94

December 1994

1. Application for a certificate of public convenience and necessity to construct, operate and maintain a natural gas transmission system in the Province of Alberta.
2. Transmission system to be located in Alberta.
3. System to be located in the following areas:
 - a. Alberta.
 - b. B.C.
 - c. U.S.A.
4. Project activities will be carried out in the following areas:
 - a. Alberta.
 - b. B.C.



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Canada 1994

Cat. No. NE22-1/1994-12E
ISBN 0-662-22873-1

This report is published separately in both official
languages.

Copies are available on request from:

Regulatory Support Office

National Energy Board

311 Sixth Avenue S.W.

Calgary, Alberta

T2P 3H2

(403) 292-4800

For pick-up at the NEB office:

Library

Ground Floor

Printed in Canada

© Ministre des Travaux publics et des Services
gouvernementaux Canada 1994

Nº de cat. NE22-1/1994-12F
ISBN 0-662-99648-8

Ce rapport est publié séparément dans les deux
langues officielles.

Exemplaires disponibles sur demande auprès du:

Bureau du soutien à la réglementation

Office national de l'énergie

311, sixième avenue s.-o.

Calgary (Alberta)

T2P 3H2

(403) 292-4800

En personne, au bureau de l'Office:

Bibliothèque

Rez-de-chaussée

Imprimé au Canada

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Act	<i>National Energy Board Act</i>
Board or NEB	National Energy Board
B.C.	British Columbia
Bcf	billion cubic feet
cm	centimetre(s)
EARP Guidelines Order	<i>Environment Assessment and Review Process Guidelines Order</i>
ha	hectares
Home	Home Oil Company Limited
km	kilometre(s)
Letter Agreement	a Letter Agreement dated 19 July 1994 between Home and NCL
m	metre(s)
m^3	cubic metre(s)
m^3/d	cubic metre(s) per day
Mcf	thousand cubic feet
mm	millimetre(s)
MMcf/d	million cubic feet per day
NCL	Novagas Clearinghouse Ltd.
NCPL	Novagas Clearinghouse Pipelines Ltd.
NOVA	NOVA Gas Transmission Ltd.
Regulations	<i>National Energy Board Onshore Pipeline Regulations</i>
3025811	3025811 Canada Ltd.

Recital and Intervenors

IN THE MATTER OF the *National Energy Board Act* (the "Act") and the Regulations made thereunder; and

IN THE MATTER OF an application dated 23 September 1994 from Novagas Clearinghouse Ltd., as agent for Novagas Clearinghouse Pipelines Ltd. (formerly 3025811 Canada Ltd.) pursuant to section 52 of the Act, for a Certificate of Public Convenience and Necessity authorizing the construction of a natural gas pipeline; and

IN THE MATTER OF National Energy Board Directions on Procedure, Order GHW-1-94.

EXAMINED by means of written submissions.

BEFORE:

R. Illing	Presiding Member
A. Côté-Verhaaf	Member
R. Andrew, Q.C.	Member

INTERVENORS:

Alberta Department of Energy
Alberta Natural Gas Company Ltd
B.C. Gas Utility Ltd.
CanWest Gas Supply Inc.
Department of Fisheries and Oceans
Direct Energy Marketing Limited
Foothills Pipe Lines Ltd.
Mobil Oil Canada
Pan-Alberta Gas Ltd.
TransGas Limited
Westcoast Energy Inc.
Western Gas Marketing Limited

Chapter 1

Introduction

On 23 September 1994 Novagas Clearinghouse Ltd. ("NCL"), acting as agent for 3025811 Canada Ltd. ("3025811"), filed an application pursuant to section 52 of the *National Energy Board Act* (the "Act"), for a Certificate of Public Convenience and Necessity to construct a natural gas pipeline from a proposed Home Oil Company Limited ("Home") gas processing plant in northeastern British Columbia ("B.C.") to a proposed NOVA Gas Transmission Ltd. ("NOVA") pipeline in northwestern Alberta. In the application the project is referred to as the Kahntah Pipeline Project. The applied-for pipeline is illustrated in Figure 1-1.

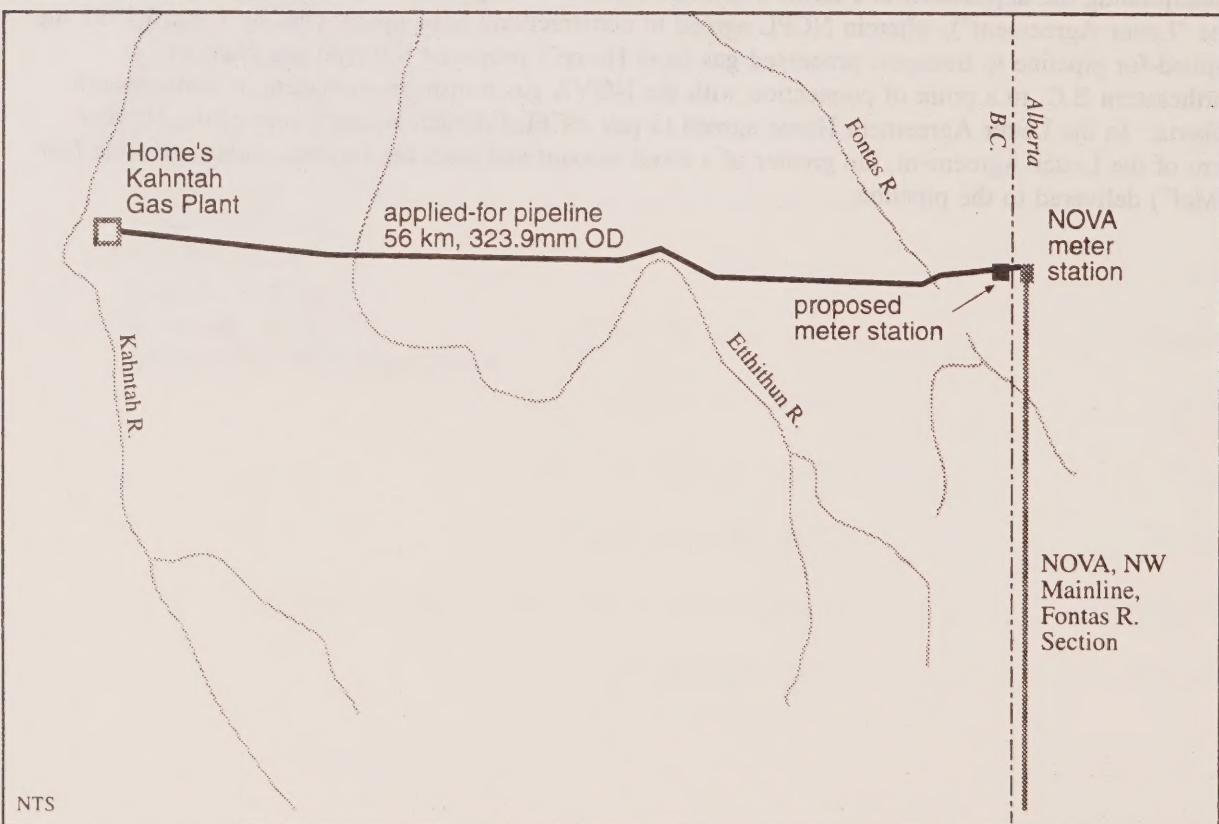
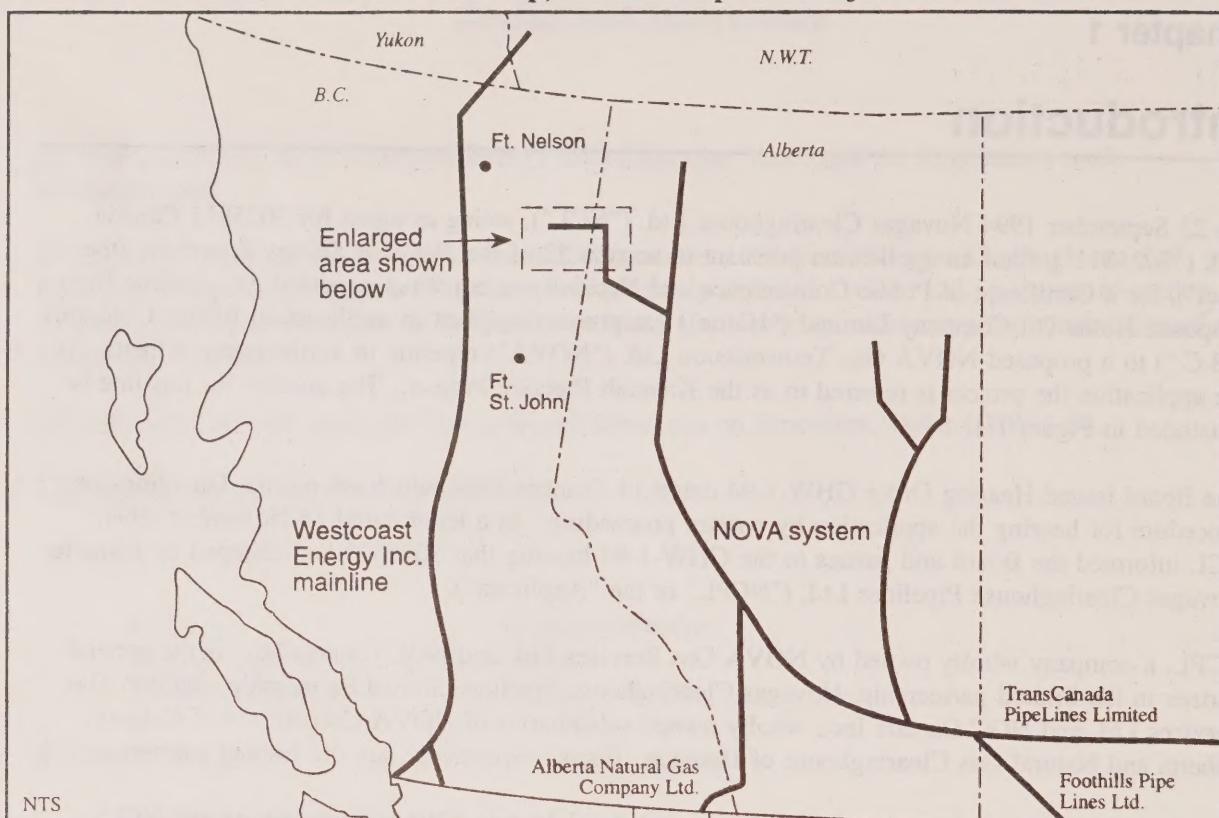
The Board issued Hearing Order GHW-1-94 dated 14 October 1994 which set out the Directions on Procedure for hearing the application by written proceeding. In a letter dated 16 November 1994, NCL informed the Board and parties to the GHW-1-94 hearing that 3025811 had changed its name to Novagas Clearinghouse Pipelines Ltd. ("NCPL" or the "Applicant").

NCPL, a company wholly owned by NOVA Gas Services Ltd. and NGC Canada Inc., is the general partner in the limited partnership, Novagas Clearinghouse Pipeline Limited Partnership. NOVA Gas Services Ltd. and NGC Canada Inc., wholly owned subsidiaries of NOVA Corporation of Calgary, Alberta and Natural Gas Clearinghouse of Houston, Texas, respectively, are the limited partners.

Underpinning the application is a Letter Agreement dated 19 July 1994 between Home and NCL¹ (the "Letter Agreement"), wherein NCPL agreed to construct and have operational by 1 April 1995 the applied-for pipeline to transport processed gas from Home's proposed Kahntah gas plant in northeastern B.C. to a point of connection with the NOVA gas transmission system in northwestern Alberta. In the Letter Agreement Home agreed to pay NCPL for each contract year of the 10 year term of the Letter Agreement, the greater of a fixed amount and a set fee for each thousand cubic feet ("Mcf") delivered to the pipeline.

¹ NCL's rights and obligations under the Letter Agreement were assigned to NCPL on 21 September 1994.

Figure 1-1
Location Map, Kahntah Pipeline Project



Chapter 2

Gas Supply

NCPL provided estimates of gas reserves to demonstrate the adequacy of gas supply in the Kahntah area. The Applicant's gas supply evidence is based on a single Montney gas pool using Home's evaluation of seven existing wells and 57 undrilled locations. Each location was assigned reservoir parameters that were determined from existing wells. Estimates of net pay were then assigned using porosity and shale content for cutoffs. An area estimate of 276 hectares ("ha") for each location was considered appropriate by Home. As a result, Home's estimate of reserves is $4\ 123\ 10^6\text{m}^3$ (145 Bcf).

The Board's estimate of initial established reserves was limited to the area of the Montney gas pool proven by the seven existing wells and, therefore, the Board considered a smaller area than that used by the Applicant. In addition, although the Board applied the same porosity, permeability and water saturation cutoffs as used by Home, the Board's estimates of net pay were significantly lower than those provided by the Applicant. As a result, the Board's estimate of initial established reserves is $617\ 10^6\text{m}^3$ (22 Bcf), significantly lower than the Applicant's.

The Board does recognize the potential for extensions to the Montney gas pool, which is categorized by the Board as undiscovered potential. Reserves additions to this pool will require further infill and delineation drilling activity.

Using the Board's estimate of reserves only, the Board's productive capacity analysis indicates that supply would be unable to meet the requirements of $980\ 10^3\text{m}^3$ per day (35 MMcf/d). However, productive capacity would increase with reserves additions resulting from pool extensions from future drilling.

Views of the Board

The Kahntah area contains a new Montney gas pool that Home has delineated with seven successful wells. Home now plans to drill 57 development wells to complete a 64 well program. In addition, the Applicant has stated it expects that there will be future exploration and development in the sparsely drilled Kahntah area once processing and transportation facilities are in place. The Board has provided its initial estimates for reserves and productive capacity; however, the Board recognizes that there is the potential for reserves additions from pool extensions and new pool discoveries, both of which the Board categorizes as undiscovered potential.

Chapter 3

Facilities

The applied-for pipeline consists of a 56 kilometre ("km") long, 323.9 millimetre ("mm") outside diameter pipeline from the site of Home's proposed Kahntah gas plant, in d-53-D/94-I-02 in northeastern B.C., to a point of connection, in legal subdivision 5-6-104-12 W6M in the province of Alberta, with NOVA's Northwest Mainline, Fontas River Section. In addition, a metering facility will be installed in c-1-A/94-I-01, a point which is about one kilometre west of the Alberta-B.C. border. The metering facility will enable the Applicant to measure gas volumes leaving the province of B.C. and to confirm gas volumes being transported through the pipeline.

The Applicant states in its application that the applied-for facilities will be designed, constructed and tested in accordance with the latest edition of Canadian Standards Association, CAN/CSA Z184-M92, Gas Pipeline Systems, the requirements of the Act and other appropriate governing codes. Also, the Applicant states that at some time in the future all or a portion of the pipeline may be converted to a sour gas gathering pipeline. Therefore, the pipeline will be constructed to sour gas specifications.

Initially the pipeline will transport $980 \text{ } 10^3 \text{m}^3/\text{d}$ (35 MMcf/d) of processed gas produced from Home's Kahntah plant. The pipeline has been designed with the transportation capacity for the $1 \text{ } 820 \text{ } 10^3 \text{m}^3/\text{d}$ (65 MMcf/d) that Home eventually expects to produce from the Kahntah field and surrounding area as well as additional capacity for production from other fields which may be developed in the vicinity of the pipeline. In its application NCPL has indicated that the project will stimulate exploration and development in the vicinity of the pipeline and NCPL also stated that it has received expressions of interest for transportation service on the applied-for pipeline.

Views of the Board

The Board is of the view that the applied for facilities have been designed and will be constructed and tested in accordance with the requirements of the Act and the Regulations. The Board is also of the view that the pipeline is appropriately sized in that excess capacity is warranted to allow for further development in the vicinity of the pipeline. Furthermore, construction of the pipeline to sour gas specifications will enable the Applicant to transport unprocessed gas should this type of operation become necessary at some time in the future.

Chapter 4

Public Consultation, Right-of-Way, Environmental and Socio-Economic Matters

4.1 Environmental Assessment Process

NCPL submitted environmental and socio-economic assessment reports ("the assessments") and other information in support of its application under covering letters dated 23 September 1994, and 1, 2, 16 and 25 November 1994. NCPL adopted the recommendations contained in those submissions to prevent or mitigate any potentially adverse environmental effects arising from the construction and operation of the applied-for facilities.

The assessments included: a description of the environmental setting; an assessment of the probable adverse environmental effects of the proposal; and recommendations to prevent or mitigate any adverse environmental effects resulting from the applied-for facilities. An environmental issues list, which included the recommended practices and procedures to prevent or mitigate specific adverse environmental effects, was also submitted. In general, the assessments provided information on land use, terrain, vegetation, fisheries, wildlife, hydrology, water quality and environmental inspection and monitoring.

The environmental and directly-related social effects of the project were considered concurrently under two separate processes:

- (i) an examination of the project pursuant to the Board's mandate under Part III of the Act; and
- (ii) an environmental screening of the application pursuant to the *Environmental Assessment and Review Process Guidelines Order* (the "EARP Guidelines Order").

The Board's environmental review pursuant to Part III of the Act is detailed in this chapter. The environmental screening was conducted concurrently with the GHW-1-94 proceeding.

4.2 Public Consultation

In accordance with the Board's Memorandum of Guidance Concerning Public Notification of Proposed Facilities Applications, NCPL initiated its notification program in respect of the Kahntah Pipeline Project on 4 August 1994. Through this program, NCPL solicited and encouraged public input on environmental and socio-economic concerns and issues, and is continuing to respond to all public queries related to the proposed facilities.

As part of this program, NCPL published a public notice in the Alaska Highway News and the Fort Nelson News which serve the main areas traversed by the pipeline route. Further, NCPL published the public notice of its proposed project in the B.C. Gazette. The public notice described the proposed project route and identified the date and time of a public forum to be held in Fort St. John.

The public notice also listed the purpose of the public forum which was to provide an opportunity for inquiries and comments from interested parties if additional information was required.

Prior to the public forum, as a result of the above newspaper publications, interested parties had the opportunity to contact the Applicant directly regarding questions they had and to request additional information. The public information forum was held in Fort St. John on 27 September 1994 and provided interested parties with an opportunity to discuss the project and receive additional information. A total of ten people attended the forum, representing seven organizations and companies including the Prophet River Indian Band and the West Moberly First Nation. NCPL, in its application, provided the Board with a summary of the discussions with those in attendance at the public forum.

Early on in the public notification process, on 31 August 1994, NCPL held a meeting with the Fort Nelson Band. At that time NCPL agreed to engage a consultant to evaluate the existing fur-bearing populations in the area prior to construction, in order to be able to assess the effect on such populations, if any, arising from construction. NCPL noted that it is jointly working with the Fort Nelson Band and the consultant in this regard.

In addition, NCPL sent letters dated 18 and 22 August 1994 to seven B.C. and Alberta government departments. Those letters requested assistance in identifying concerns that those departments may have with respect to the project.

As a further requirement for public notification, the Board directed NCPL through its GHW-1-94 Directions on Procedure to publish a Notice of Public Hearing in newspapers in B.C., Alberta and Ontario as well as in the Canada Gazette.

Views of the Board

The Board is satisfied that NCPL has notified and adequately discussed the Kahntah proposal in a timely and satisfactory fashion with government agencies, native bands, public interest groups, and landowners having an interest in the project.

4.3 Right-of-Way

4.3.1 Project Area Description

The project area falls within the Lower Boreal-Cordilleran Ecoregion of Alberta and the Mackenzie Plains and Alberta Plateau ecoregions of B.C. The area can be described as a flat to gently rolling, poorly drained, morainal plain supporting gleysols and organic soils, with luvisols and brunisols occurring locally on upland sites and river terraces. Vegetation is largely dominated by open muskeg, scrub coniferous and deciduous forest, although mixed stands of pine, spruce, and aspen occur on the better-drained surficial deposits. The proposed routing crosses the Fontas and Etthithun Rivers, in addition to several meltwater channels and poorly defined muskeg drainage channels. The route also encounters acknowledged caribou range for most or all of its length.

4.3.2 Route Selection Criteria and Selection Process

The Kahntah Pipeline project will be a buried natural gas pipeline approximately 56 km in length within an 18 metre ("m") wide right-of-way. The project will result in a surface disturbance, for the permanent right-of-way, of approximately 101 ha of land.

Additional temporary workspace will be required during the construction period in heavily graded areas (for grade spoil storage), at timber decking sites, and at crossings of major watercourses and possibly roads. Although temporary workspace requirements have not yet been identified, NCPL indicated that past pipeline experience in similar terrain has shown that such workspace totals will equate to approximately 6 - 8% of the right-of-way area (i.e., approximately 6 - 8 ha of extra workspace).

To minimize the potential effects from such disturbance, NCPL undertook a route selection process which evaluated potential conflicts with the important biophysical features and land uses in the area.

NCPL submitted that the selection of the proposed route location was based on the following criteria:

(a) Construction/Operation Criteria

- (i) tie-in points;
- (ii) construction/operation difficulties;
- (iii) access; and
- (iv) future system expansion.

(b) Biophysical Criteria

- (i) fish and wildlife; and
- (ii) areas of high environmental sensitivity.

(c) Land Use Criteria

- (i) land uses;
- (ii) historical resources; and
- (iii) use of existing corridors.

For the purposes of route selection, the pipeline project area was considered to be a 5 km-wide corridor, centred on the shortest straight-line route between the end points. Routing outside of this designated project area was not considered practical from an economic perspective, nor warranted from an environmental perspective.

The project area was initially reviewed on topographic maps and air photos of the region by survey, engineering, construction and environmental staff. Because of the homogeneity of the region, only one major route was developed for serious consideration, with route selection largely being influenced by the following factors:

- maximizing use of seismic corridors;
- approaching major watercourses within stable channel reaches;
- avoiding multiple crossings of Etthithun River; and

- minimizing line length within productive forest stands associated with major watercourses (i.e., Fontas River, Etthithun River).

Following the development of the preliminary route, the route was field-checked by both survey/engineering and environmental personnel, and minor modifications were implemented to avoid beaver dam impoundments and to improve crossing conditions at the major watercourses.

Views of the Board

The Board is satisfied with the route selection criteria adopted by NCPL as well as NCPL's approach in applying those criteria in the determination of the proposed pipeline route. The Board finds the general route proposed by NCPL to be acceptable.

4.3.3 Land Requirements

4.3.3.1 Permanent Easement

The proposed pipeline traverses Crown land for the entire route and the right-of-way would be typically 18 m wide. An application has been made for a Licence of Occupation for the 18 m wide right-of-way for an approximate distance of 55 km (B.C.) and a separate application will be made for a Pipeline Lease Agreement (Alberta) for approximately 1.0 km. The selected 18 m right-of-way width is the minimum width necessary to safely construct the 323.9 mm outside diameter pipeline.

4.3.3.2 Temporary Workspace

Additional temporary workspace has been dealt with in section 4.3.2 of these Reasons.

4.3.3.3 Meter Facility

A metering facility will be constructed in conjunction with the Kahntah Pipeline on the B.C. side of the border. The facility will be contained on a 4 m by 7 m skid supported on piles, and will be located within the permanent 18 m wide easement for the pipeline. An additional 50 m by 50 m site has been applied for as a helicopter landing site.

4.3.3.4 Access Development

The project area is currently not accessible by existing all-weather resource roads, and no all-weather road development is currently planned in support of either the pipeline or Home's proposed gas plant. For the construction of the pipeline, existing winter roads will be opened in December from resource roads in the Paddy Airstrip area. Once constructed, routine maintenance activities associated with the meter station will be helicopter-supported, or completed during frozen-ground periods using winter access roads.

4.3.3.5 Construction Accommodation

Because of the remoteness of the project area, a field camp will be required to house workers throughout the construction period. Although camp approvals will be the responsibility of NCPL, the specific plans for the camp will not be finalized until after construction logistics have been discussed

with the selected contractor. However, the camp will be located near the mid-point of the pipeline on a previously cleared area near the junction of an existing winter road and the proposed right-of-way.

Views of the Board

The Board finds that NCPL's anticipated land requirements for pipeline construction, installation, access, accommodation, and operation are reasonable and justified.

4.4 Environmental Matters

The potential environmental concerns associated with the construction and operation of the proposed project include terrain, vegetation, wildlife, fisheries, hydrology and water quality, toxic substances, and environmental inspection and reporting.

4.4.1 Terrain

NCPL has submitted that the majority of the route traverses muskeg areas. NCPL intends to conduct its construction during the winter when the terrain would be frost packed to adequately support equipment. In areas requiring further stabilization NCPL indicated that it would install short sections of corduroy or geotextile grid capped with local spoil material to provide adequate support for equipment. NCPL submitted that cross right-of-way drainage would be re-established during clean-up.

In addition NCPL submitted that, should construction continue into periods of early spring thaw, it would temporarily suspend or terminate construction activities if surface thaw penetrated to a depth of 30 centimetres ("cm") or more. NCPL would have contingency measures for dealing with soft ground conditions.

NCPL submitted that moderate topographic relief exists at the Ethithun and Fontas Rivers, which have the potential for slope stability concerns. NCPL indicated that it would install various geotechnical features such as trench breakers, diversion berms, and if necessary, sub-drains to stabilize the slopes at these river crossings. NCPL submitted further that it would monitor these slopes for stability following construction and during its routine aerial patrols during the pipeline's operation.

4.4.2 Vegetation

NCPL submitted that approximately 23 km of the proposed pipeline route would follow existing seismic lines, which would reduce the amount of clearing to be undertaken. NCPL submitted that the predominantly forested and shrub land areas would change into a persistent grass community.

NCPL indicated that it would salvage all merchantable timber in accordance with provincial requirements and deck the timber on approved extra workspace. If material is to be considered for corduroy, NCPL has submitted that it will not use aspen or poplar because of potential problems from toxic leachate on fish. NCPL indicated that all slash remaining after timber, corduroy and rollback salvage would be piled and burned to reduce long-term hazards along the right-of-way.

NCPL submitted that little information is available on the occurrence and distribution of rare and endangered plants within the project area. NCPL submitted further that construction in flat muskeg areas would be highly localized and would have little adverse effect on indigenous communities.

NCPL indicated that it would conduct a revegetation program during clean-up to ensure that desirable forage species are quickly established. Seeding would be undertaken during the spring period by helicopter, using a seed mix based on a reclamation mix developed by provincial agencies for a resource management plan in northwestern Alberta.

4.4.3 Wildlife and Wildlife Habitat

Construction could have potentially adverse effects on wildlife in the project area. NCPL has submitted that the potential effects include sensory disturbance, blockage of animal movements, habitat alteration, increased access potential and project-related animal mortalities.

NCPL submitted that the project area supports a low density of woodland caribou, a species listed as vulnerable by the Committee on the Status of Endangered Wildlife in Canada. Woodland caribou are highly mobile species, occupying large seasonal territories and demonstrating average daily movements of 2-3 km while on winter range. NCPL submitted that woodland caribou can accommodate localized linear corridors of disturbance by relocating away from centres of activities. NCPL indicated that a "Management Plan for Industrial Activity in Caribou Ranges In Northwestern Alberta" has been developed. This plan emphasized the need for the completion of projects as early in the winter as possible to reduce stress to the animals in the late winter period. NCPL submitted that it intends to complete the construction of the project east of the Fontas River as early in the winter as possible. In addition, NCPL submitted that it would develop in consultation with provincial agencies, a cooperative access control initiative to prevent unauthorized travel into the project area during the construction period, and would be installing rollback in the vicinity of the Fontas River crossing to prevent long-term access trails from developing along the right-of-way into the caribou range.

NCPL submitted that because of the winter construction schedule, the sensitive reproductive spring period for most wildlife species common to the area would be avoided. One exception to this are owls which initiate nesting activities in early March. NCPL submitted that as the right-of-way would already be active at that time, it would be unlikely that such species would initiate nesting in the vicinity of the right-of-way and instead select timbered areas more removed from centres of disturbance. NCPL submitted that, for other species, the effects would be short-term and localized events of low magnitude as the construction activities would be along the right-of-way and wildlife would have the ability to temporarily relocate away from the right-of-way without being forced into sub-optimal habitat conditions.

NCPL indicated that the installation of smaller diameter pipelines is of less concern in terms of blocking or obstructing wildlife movements. NCPL indicated that the ditch would only be left open for a one to two day period. NCPL indicated further that it would install 15 m long breaks in the pipeline ditch every 500 m and at those locations corresponding to existing wildlife trails in any continuous windrow of right-of-way material. In addition, NCPL indicated that it would install breaks every 500 m at existing wildlife trails in slash, ditch spoil, grade spoil and snow berms more than 75 cm in height.

NCPL indicated that the adverse effects from habitat alteration would be localized and of low magnitude. NCPL indicated that no known important localized habitats, such as mineral licks, and no beaver dams, would be disturbed along the proposed route.

Increased access potential could result in short and long term adverse effects on wildlife populations. Right-of-way development has the potential of providing new access opportunities for hunters. In addition, ploughed rights-of-way could improve the hunting efficiency of major predators, such as wolves, thus adding additional mortality risk to prey populations. NCPL intends to address these concerns in a number of ways. Not all weather roads are to be developed into the project area. In addition, work east of the Fontas River would be completed as quickly as possible and slash rollback would be installed on the right-of-way to discourage snowmobile trail development.

4.4.4 Fisheries and Fisheries Habitat

NCPL submitted that pipeline construction can adversely affect fisheries by disrupting sensitive life cycle phases, such as spawning, migration and overwintering, and by reducing long-term aquatic habitat quality through habitat destruction, sediment deposition, bank and bed degradation, and fuel spills. In addition, NCPL submitted that blasting could be required in the vicinity of the Fontas River. NCPL submitted the results of a fisheries study undertaken on the project route. The report identified 16 watercourse crossings, including two river crossings and 14 minor drainage courses.

With respect to disruption of sensitive life cycle phases, NCPL submitted that the two major rivers located on the route support populations of burbot, which spawn under the ice from mid to late winter. In addition overwintering fish may be present at the time of construction at the stream crossings, although this presence would be restricted to those watercourses with suitable fisheries habitat.

NCPL submitted that habitat degradation from construction would be minimized at all watercourse crossings through the implementation of several standard construction practices. NCPL submitted that it is prepared to install the pipeline using isolated crossing techniques (e.g. dam and pump system) at all crossings assessed to have overwintering fisheries potential and demonstrating winter flow. NCPL indicated that it was committed to assess flows at all crossings early in the construction period with B.C. Ministry of Environment, Lands and Parks and Canadian Department of Fisheries and Oceans ("DFO") representatives to finalize crossing plans. If flowing water is present at the Etthithun and Fontas Rivers, NCPL undertook to DFO to drill test holes adjacent to the active channel to investigate subsurface materials and the feasibility of a horizontal-bore installation.

DFO identified a number of concerns relating to the protection of fish and fish habitat. NCPL addressed these concerns and made a number of commitments for the protection of the fisheries resources. NCPL submitted that it would comply with DFO's Fish Screening Directive to prevent fish entrainment and impingement, as well as with DFO's blasting guidelines. NCPL undertook to conduct sampling during instream activities at the Etthithun and Fontas Rivers for water quality parameters and implement an acceptable aquatic habitat compensation program to restore habitat capability lost to instream activities.

4.4.5 Hydrology and Water Quality

NCPL submitted that it intends to use a water/methanol mix as a test medium for hydrostatic testing of the pipeline. NCPL indicated the liquid would likely be premixed, transported to the project site and stored in tanks on the right-of-way. NCPL further indicated that water may also be used as test medium. NCPL indicated that if water is used for testing, it would only be drawn from and discharged as outlined in permits obtained. The water/methanol mixture would be recovered in tankage and disposed of in accordance with provincial requirements.

NCPL submitted that it would not refuel equipment within a watercourse but would require the equipment to be beyond the high water mark of the watercourse and refuelled from small service vehicles with limited tank capacity to eliminate the potential for significant spills. In addition, NCPL would not permit large fuel sloops within 100 m of a watercourse.

4.4.6 Toxic Substances

NCPL submitted that it would require the contractor to provide NCPL with a spill contingency plan before the commencement of construction. This plan would include information on individuals responsible for spill control and cleanup, materials and equipment available on site for spill control and clean-up and general procedures to be employed for spill containment, clean-up and disposal.

NCPL indicated that it would maintain the integrity of the pipeline through the use of corrosion inhibition fluid and methanol. Both chemicals would be batched or continuously injected into the system as required, and scrapers would disperse the chemicals down the pipeline. NCPL indicated that any residual fluids would be collected, handled, stored, and disposed of in accordance with recommended practices and procedures.

4.4.7 Environmental Inspection and Reporting

NCPL submitted that an environmental inspector would not be on-site on a full time basis but an environmental advisor would be present as required for activities associated with access control, stream crossings and final clean-up. NCPL indicated that activity inspectors would be well versed on the environmental issues surrounding pipeline construction and would report directly to the Chief Inspector who would liaise with the environmental advisor on all matters pertaining to the environmental specifications for the project.

NCPL submitted a list of provincial and federal licences and approvals with possible environmental conditions which would be required for the project. NCPL indicated that any inconsistencies between the conditions in the permits would be discussed and resolved with the applicable agencies prior to the commencement of clearing. NCPL undertook to maintain a file in the construction office containing all permits and authorizations with environmental conditions.

NCPL undertook to complete a post-construction environmental report within 6 months of the date of the last leave-to-open, a one-year after monitoring report and a two-year after monitoring report for this project. NCPL indicated that these reports would address environmental issues that have been encountered, those resolved, those outstanding and the measures that NCPL would take to resolve the outstanding issues.

NCPL submitted that it would monitor the right-of-way during its operation by the following means:

- periodic aerial fly-overs of the right-of-way to assess third party activity along or near the right-of-way, to assess any environmental concerns which may occur and to assess the general condition of the right-of-way; and
- employing an environmental advisor to ensure environmental reporting requirements are met and to assess the environmental condition of the right-of-way during the periodic aerial fly-overs.

Views of the Board

The Board is satisfied with the environmental information provided by NCPL with regard to the potential adverse environmental effects which may result from the construction and operation of the applied-for facilities and is satisfied with NCPL's proposed mitigative measures and monitoring. The Board will require NCPL to complete the work in the sensitive caribou habitat area (i.e. that portion of the route east of the Fontas River) prior to 15 February 1995, as suggested in NCPL's application. However, if this date cannot be achieved, the Board will require NCPL to obtain the support of the Alberta Department of Environmental Protection in terms of extending the duration of construction. In addition, due to the concerns of access into caribou territory, the Board is of the view that access along the right-of-way east of the Fontas River should be removed during clean-up.

The Board will require NCPL to demonstrate to the Board that all concerns raised by DFO have been addressed. The Board is of the view that should a horizontal-bore crossing of either the Etthithun or Fontas River be considered, an approval from the Board is required.

The Board is of the view that a full-time environmental inspector with appropriate qualifications and authority is required to be on-site throughout the construction period.

EARP Guidelines Order Review

The Board conducted an environmental screening of the applied-for facilities in compliance with the EARP Guidelines Order insofar as there was no duplication of the Board's own regulatory process. The Board has determined that the potentially adverse environmental effects, including the social effects directly related to those environmental effects, which may be caused by the proposal would be insignificant or mitigable with known technology. This conclusion, outlined in a separate screening document, represents a finding pursuant to paragraph 12(c) of the EARP Guidelines Order and is based on the conditions to be attached to the Board's approval of the proposal.

4.5 Socio-Economic Matters

The proposed project is in a remote, unsettled area. Construction of the 56 km long pipeline will be contracted out and is proposed for the four month period from December 1994 through March 1995. Fort St. John, some 300 km to the southwest, would be the primary centre for moving supplies, equipment and the workforce to the project area.

Because of the remote location, a construction camp will be required. The camp has been initially planned to have facilities for up to 90 construction workers and support staff. The final plan for the camp will only be determined once the construction contractor finalizes its plans and logistics, which is dependent on the timing of construction. NCPL is committed to adhere to all applicable regulations with respect to the camp and camp site, including those respecting camp abandonment. The camp will be located at the mid-point of the proposed line in order to minimize travel from the camp to any

point on the right-of-way, and in order to be easily accessible from an existing winter road. Moreover, the selected site has previously been used for a camp. Basic health services would be provided on site, with arrangements in place for emergency medical evacuation by helicopter.

Local concerns with socio-economic matters have been raised by the Fort Nelson Band. Its specific concerns are with the project's impact on fur-bearing population yields, and on employment opportunities. NCPL stated that it has agreed to hire a consultant to study the fur-bearing population yields. However, there is no indication of what steps NCPL would take should the study indicate adverse effects on yields, or the process for further discussion with the Fort Nelson Band and possible mitigative or compensation measures.

NCPL states that the Fort Nelson Band's employment interests are recognized and are being addressed, however, specific plans or actions will be better known once the contractors have been selected.

NCPL has undertaken a historic resources survey, which will be forwarded to the responsible Alberta and B.C. provincial authorities. NCPL has committed to comply with the recommendations in the survey report, which includes carrying out post-construction archaeological assessments of the aspen-covered topographical highs.

Views of the Board

The Board notes the commitments made by the Applicant with respect to historical resources and to studying the impact of construction on the yield of fur-bearing populations. The Board also notes that NCPL recognizes and is addressing the Fort Nelson Band's concerns regarding employment opportunities. The actual outcome of this process is awaiting the selection of contractors. The Board is of the view that the adequacy with which the Applicant is addressing these socio-economic issues can be determined in the course of the Board's monitoring activities.

The Board is of the opinion that given the scale and location of this project, any impacts on the regional infrastructure, businesses and labour market would likely be relatively minor. Given NCPL's public consultation, planning and commitments to avoid adverse socio-economic effects and promote positive ones, the Board is satisfied that the socio-economic impacts would be either insignificant, or minor in nature and readily amenable to standard mitigation measures.

Chapter 5

Transportation and Market Arrangements

In support of the Kahntah Pipeline Project application, Home and NCL executed the Letter Agreement, which provides for processed-gas transmission service totalling $980 10^3 \text{m}^3/\text{d}$ (35 MMcf/d) for a 10-year term commencing 1 April 1995. Under the Letter Agreement, processed gas would be shipped 56 km from the Home Kahntah gas plant to a NOVA metering facility. Home has received a commitment for receipt capacity from NOVA for 1 April 1995. NOVA has advised that on 17 November 1994, provincial regulatory approval was received to construct the facilities which the Kahntah Pipeline Project will tie into, NOVA's Northwest Mainline, Fontas River Section, stating that the facilities will be fully operational to receive gas from the Kahntah Pipeline Project on 1 April 1995.

Home has indicated that the initial production of $980 10^3 \text{m}^3/\text{d}$ (35 MMcf/d) from the Kahntah field will be incorporated into its corporate supply pool to serve existing and anticipated contracted sales in both long and short-term markets.

Views of the Board

The Board finds that the Letter Agreement which Home and NCL have executed demonstrates that the applied-for facilities are required to serve gas production from Home's Kahntah field. Furthermore, the Board is satisfied that downstream transportation and market arrangements are or will be in place to facilitate the utilization of the applied-for facilities at a reasonable level over their economic life.

Chapter 6

Financial Matters, Toll Methodology and Tariffs

6.1 Financial Matters

NCPL intends to finance the \$13,600,000 cost of the project through internal sources of funds, credit facilities arranged with financial institutions or a combination of these two methods. A financial arrangement with Home supports NCPL's investment in this project. NCL, on behalf of the Applicant, stated that the negotiated fees found in the Letter Agreement with Home were considered acceptable by both parties. Under the terms of the Letter Agreement, NCPL would absorb any cost overruns related to the proposed pipeline.

Views of the Board

The Board has no concerns about NCPL's ability to finance the proposed pipeline.

6.2 Toll Methodology and Tariffs

The Letter Agreement with Home guarantees recovery of the estimated capital and operating costs of the proposed pipeline over a ten-year period. The Letter Agreement sets out, among other terms and conditions, a transportation fee to be paid by Home to NCPL in which Home pays the greater of \$0.15 per Mcf of processed gas delivered to the pipeline and \$1,916,250 for each contract year of the ten-year term. The transportation fee includes an annual provision of \$100,000 for operating costs.

NCL, on behalf of NCPL, stated that both parties find the terms of the Letter Agreement acceptable and are each prepared to assume a relative risk in this project. The Letter Agreement allows for additional shippers to use the pipeline, provided Home has the right of first refusal for the additional capacity. The terms of the Letter Agreement also allow for NCPL and Home to renegotiate the contract if so desired by both parties.

Views of the Board

Based on the fact that both parties agree to the terms of the Letter Agreement, the fact that the transportation fee adequately covers the cost associated with the project and that other producers are not precluded from shipping gas on the proposed pipeline, the Board finds the toll methodology to be acceptable. The Board views NCPL as a Group 2 Pipeline Company therefore, tolls and tariffs will be regulated on a complaint basis. If other producers begin using the proposed pipeline or if the Letter Agreement is renegotiated, NCPL will be required to file with the Board a tariff reflecting this change in its terms and conditions pursuant to subsection 60(1) of the Act.

Chapter 7

Project Feasibility

Before the Board may issue a certificate under section 52 of the Act, it must be satisfied that the pipeline is and will be required by the present and future public convenience and necessity. Section 52 requires the Board to have regard to all considerations that appear to it to be relevant, and specifically provides that such considerations may include, among other things, the availability of oil or gas to the pipeline and the economic feasibility of the pipeline.

The proposed pipeline is required by Home in order to ensure that the necessary transportation infrastructure will be in place to support its development of the Kahntah field. Since this field has not yet been fully developed, reserves and deliverability for the entire field have not been proved. However, Home is willing to effectively guarantee the economic feasibility of the pipeline by entering into a firm transportation contract for a minimum term of 10 years. Under this agreement Home will pay a minimum of \$1,916,250 a year, based on a guaranteed capacity of 980 $10^3 \text{m}^3/\text{d}$ (35 MMcf/d) and a transportation fee of \$0.15/Mcf.

Views of the Board

The Board is satisfied that the proposed pipeline is required in order for Home to proceed with development of the Kahntah field. The Board is also satisfied that the Applicant and Home are assuming any financial risks associated with the proposed pipeline. In these circumstances, the Board finds that the pipeline is and will be required by the present and future public convenience and necessity.

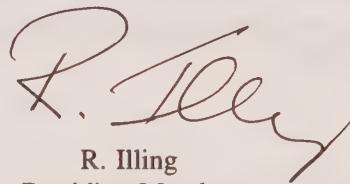
Chapter 8

Disposition

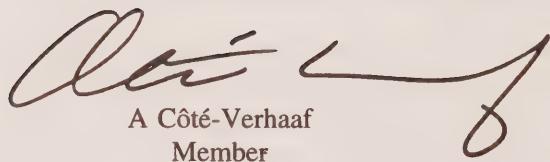
The foregoing constitutes the Board's Reasons for Decision in respect to the application considered by the Board in the GHW-1-94 proceeding.

The Board is satisfied from the evidence that the proposed facilities are and will be required by the present and future public convenience and necessity. The Board is also of the view that the design and location of the facilities are satisfactory to ensure the safe and environmentally sound construction and operation of these facilities.

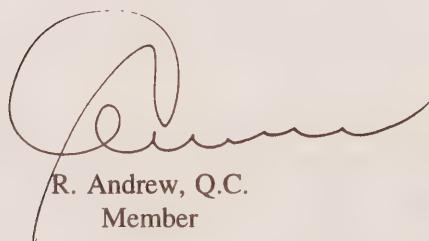
The Board will recommend to the Governor-in-Council that a Certificate be issued, subject to the conditions outlined in Appendix I.



R. Illing
Presiding Member



A. Côté-Verhaaf
Member



R. Andrew, Q.C.
Member

Calgary, Alberta
December 1994

Appendix I

Certificate Conditions

This certificate is subject to the following terms and conditions:

1. Unless the Board otherwise directs, the Kahntah Pipeline Project in respect of which this certificate is issued shall be the property of Novagas Clearinghouse Pipelines Ltd. ("NCPL").
2. (a) NCPL shall cause the Kahntah Pipeline Project to be designed, located, constructed and installed in accordance with those specifications, drawings and other information or data set forth in its application, or as otherwise adduced in evidence before the Board, except as varied in accordance with subsection (b) hereof.
(b) NCPL shall cause no variation to be made to the specifications, drawings or other information or data referred to in subsection (a) without the prior approval of the Board.
3. Unless the Board otherwise directs, NCPL shall implement or cause to be implemented all of the policies, practices, recommendations, procedures and commitments for the protection of the environment included in or referred to in its application to the Board, its environmental reports filed as part of its application, its undertakings to the Department of Fisheries and Oceans ("DFO") or as otherwise adduced in evidence before the Board in the GHW-1-94 proceeding.

Prior to Commencement of Construction

4. Unless the Board otherwise directs, NCPL shall, at least 10 days prior to the commencement of construction of the approved facilities, file with the Board a detailed construction schedule identifying major construction activities and shall notify the Board of any modifications to the schedule as they occur.
5. Unless the Board otherwise directs, NCPL shall submit to the Board prior to the commencement of construction, evidence that all outstanding concerns raised by the DFO have been resolved.
6. Unless the Board otherwise directs, if a horizontally-bored crossing of the Etthithun River or the Fontas River, or both, is to be undertaken, NCPL shall file with the Board for approval, ten days prior to the commencement of any construction activities for the river crossing portion, a plan for the crossing. This plan should include but not be limited to:
 - (a) the final geotechnical report including a detailed assessment of related pipeline integrity concerns;
 - (b) a site plan indicating the location of the boring equipment, pipe staging and other associated activities, including the amount of temporary workspace;

- (c) a detailed work schedule identifying the major construction activities related to the horizontal-bore crossing; and
- (d) contingency plans to be implemented if the horizontal bore encounters any difficulties.

7. Unless the Board otherwise directs, NCPL shall, prior to the commencement of construction of the approved facilities, file with the Board copies of any federal and provincial permits or authorizations which contain environmental conditions for the applied-for facilities and NCPL shall maintain an information file in the construction office which would include any changes made to the permits and any permits obtained following the commencement of construction.

8. Unless the Board otherwise directs, NCPL shall confirm with the Board that a full-time environmental inspector with appropriate qualifications will be on-site during the entire construction phase of the applied-for facilities, and, at least 10 days prior to the commencement of construction of the approved facilities, file with the Board the following information:

- (a) the qualifications of the environmental inspector; and
- (b) the authority of the environmental inspector with regard to the protection of the environment.

During Construction

9. Unless the Board otherwise directs, NCPL shall notify the Board within 12 hours if the horizontal-bore crossing encounters any difficulties, and advise the Board of the efforts to be taken to address any environmental concerns.

10. Unless the Board otherwise directs, NCPL shall, during construction, ensure that specialized habitat for raptors and wildlife species with a designated status will be avoided, relocated or restored in consultation with appropriate regulatory agencies.

11. Unless the Board otherwise directs, NCPL shall complete all construction activities relating to the applied-for facilities east of the Fontas River prior to 15 February 1995. If construction activities are required beyond 15 February 1995, NCPL shall file with the Board sufficient evidence to demonstrate that the Alberta Department of Environmental Protection is aware of the continuation of construction activities and is satisfied with the measures relating to the protection of the caribou population.

12. Unless the Board otherwise directs, NCPL shall remove all corduroy material and geotextile material capped with material arising from any construction activities relating to the applied-for facilities east of the Fontas River. Along the remainder of the facilities, NCPL shall submit to the Board a detailed report, including but not limited to:

- (a) documentation indicating that NCPL has an agreement in place with the province of British Columbia permitting the above-noted materials to be left in place;

- (b) detailed drawings (at a scale approximately 1:2,000) identifying the areas that the above-noted materials have been left in place and the location of breaks made in the material to permit cross right-of-way drainage; and
- (c) a detailed monitoring plan to be undertaken in 1995 and 1996 to assess the effectiveness of the cross right-of-way drainage.

Post-Construction

- 13. Unless the Board otherwise directs, NCPL shall, pursuant to section 58 of the *National Energy Board Onshore Pipeline Regulations* ("the Regulations"), file with the Board a post-construction environmental report within 6 months of the date that the last Leave-to-Open is granted for the pipeline facilities. The post-construction environmental report shall set out the environmental issues that have arisen up to the date on which the report is filed and shall:
 - a) indicate the issues resolved and those unresolved;
 - b) describe the measures NCPL proposes to take in respect of the unresolved issues; and
 - c) provide details on the monitoring of the following items:
 - i) the effectiveness of the bank and slope stabilization associated with the two river crossings;
 - ii) the drainage of any areas in which corduroy has been left in place; and
 - iii) the identification of any areas in which the original contours and drainage patterns were not re-established during clean-up.
- 14. Unless the Board otherwise directs, NCPL shall, pursuant to section 58 of the Regulations, file with the Board, on or before 31 December following each of the first two complete growing seasons following the filing of the post-construction environmental report referred to in Condition 13:
 - a) a list of the environmental issues indicated as unresolved in the report and those issues that have arisen since the report was filed;
 - b) a description of the measures NCPL proposes to take in respect of all unresolved environmental issues; and
 - c) provide detailed monitoring results on the following items:
 - i) the effectiveness of the reclamation program, including any recommendations for future reclamation programs; and
 - ii) the status of the issues identified in Condition 13 (c).

Expiration of Certificate

15. Unless the Board otherwise directs prior to 31 December 1996, this certificate shall expire on 31 December 1996 unless the construction and installation with respect to the Kahntah Pipeline Project has commenced by that date.

